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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/771,338	02/05/2004	Jong Heon Kim	K-0605	2556
34610 7590 07/29/2008 KED & ASSOCIATES, LLP P.O. Box 221200 Chantilly, VA 20153-1200				
			EXAMINER	
			TRAN, KHAI	
		ART UNIT	PAPER NUMBER	
		2611		
		MAIL DATE	DELIVERY MODE	
		07/29/2008	PAPER	

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

### Office Action Summary

**Application No.**

10/771,338

**Applicant(s)**

KIM, JONG HEON

**Examiner**

KHAI TRAN

**Art Unit**

2611

**Period for Reply** -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 06 May 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-14 and 16-22 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 14 and 16-22 is/are allowed.
- 6) ☒ Claim(s) 1-2, 4-8, 9, 10-12, 13 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/S508)
- 4) ☐ Interview Summary (PTO-413)
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_
- Paper No(s)/Mail Date \_\_\_\_\_

**DETAILED ACTION**

1. The amendment filed 5/06/2008 has been entered. Claims 3, 15 have been cancelled. Claims 1-2, 4-14, 16-22 are pending in this Office action.

***Claim Rejections - 35 USC § 112***

2. Claims 1-2, 4-8, 10-12 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claim 1, line 10, the term "the orthogonal code" lacks antecedent basis as set forth in line 14 of this claim.

Regarding claim 7, line 2, the term "the outputted in-phase components" lacks antecedent basis.

Regarding claim 8, line 1, the term "the orthogonal code" lacks antecedent basis.

Regarding claim 10, line 15, the term "the first and second delayers" lacks antecedent basis; line 17, the term "a third transformer" is not clear because there is no any first and second transformers recited in the set of the claims 9-12.

Claims 2, 4-6, 11-12 are rejected by virtue of their dependency.

***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the

prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 9, 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rege (Pat. U.S. 6,018,546) in view of Eltavil et al (U.S. Pat. 2003/0142726).

Regarding claim 9, Rege discloses a receiver in a communication system, comprising: an index detector for detecting a Walsh index indicating a maximum Walsh code by calculating an energy of each Walsh code correlation value of signal received via multi-paths (col. 3, lines 44-65, col. 4, line 13 to col. 5, line 17); a plurality of fingers for receiving the Walsh index generated from the index detector and for compensating the signals received via the multi-paths, respectively (col. 1, lines 21-35, and col. 6, lines 14-19). Rege fails to disclose using orthogonal modulation in the communication system.

Eltavil et al disclose an universal rake receiver using orthogonal modulation in the communication system (see [0019]). It would have been obvious to one having ordinary skill in the art at the time the invention was made to use the orthogonal modulation in the communication system as taught by Eltavil et al into the teachings of Rege et al in order to identify and recover the code transmitted from the multipath signal.

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Eltavil et al into the teachings of Rege in order to identify and recover the code transmitted from the multipath signal.

Claim 13 is similar to claim 9. Therefore, claim 13 is rejected under a similar rationale.

***Allowable Subject Matter***

5. Claims 14, 16-22 are allowed.
6. The following is a statement of reasons for the indication of allowable subject matter: Rege and Eltavil et al fail to disclose a coherent combining type demodulation method using orthogonal modulation in a communication system, comprising the steps of: finding Walsh correlation values of the despread signals; finding symbol energy values of the Walsh correlation values and detecting Walsh index having a maximum symbol energy among the symbol energy values; estimating phase error values of the Walsh correlation values by generating the Walsh correlation value corresponding to the Walsh index as a phase reference signal; finding the Walsh correlation values of the phase-compensated despread signals.

***Conclusion***

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to KHAI TRAN whose telephone number is (571) 272-3019. The examiner can normally be reached on 7:00AM - 4:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Payne can be reached on (571) 272-3024. The fax

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phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/KHAI TRAN/  
Primary Examiner, Art Unit 2611

*July 28, 2008*